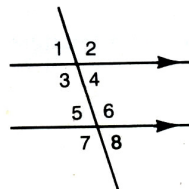


# GEOMETRY HONORS FINAL REVIEW

1.  $\angle A$  and  $\angle B$  are supplementary,  $m\angle A = 6n - 8$ , and  $m\angle B = 3n - 28$ . Find  $m\angle B$ .

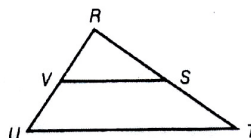
2. A right triangle has legs of 8 units and 10 units. What is the measure of the hypotenuse?

3. If  $m\angle 3 = 2x - 5$  and  $m\angle 5 = x + 20$ , find the value of  $x$ .

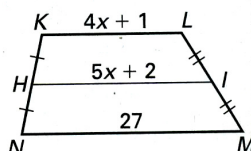


4.  $V$  and  $S$  are midpoints of  $\overline{RU}$  and  $\overline{RT}$ , respectively.  $VS = 4x - 4$  and  $UT = 12x - 16$ .

Find the value of  $x$ .



5. Find the length of  $\overline{KL}$  in the trapezoid.



6. RECT is a rectangle with  $CT = 10$  meters and  $RT = 24$  meters.

What is the length of  $ET$  in meters?

7. Which of the following lengths could represent the sides of an acute triangle?

3, 5, 7

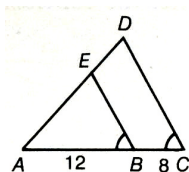
5, 12, 13

10, 12, 15

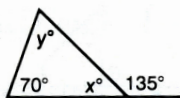
5, 5,  $5\sqrt{2}$

8. Complete:

If  $AE = 9$ , then  $AD =$  \_\_\_\_\_



9. Find the values of  $x$  and  $y$ .



10. Complete the missing step of the following proof:

Given:  $12 = 18x - 24$

Prove:  $x = 2$

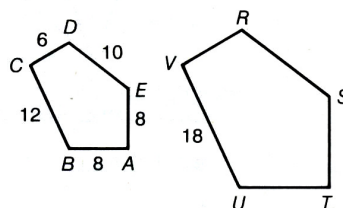
Statement	Reasons

11. Pentagon  $ABCDE \sim TUVRS$

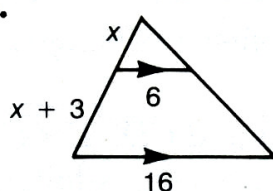
$m\angle B = m\angle$  \_\_\_\_\_

$TU =$  \_\_\_\_\_

What is the scale factor of  $ABCDE$  to  $TUVRS$ ?

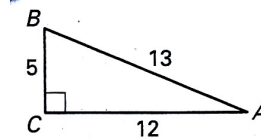


12. Find the value of  $x$ .



13. A 20 foot-flag pole is being erected on top of the building. The tower will be supported by four cables, each attached to the top of the tower and to points on the roof of the building that are 5 feet from the base of the tower. Find the total length of the four cables.

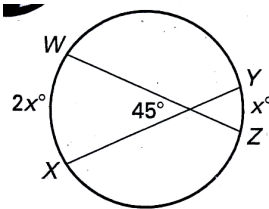
14. Find the sine, cosine, and the tangent of the acute angle A of the triangle.  
Express each value as a ratio.



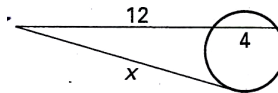
15. Decide whether the numbers can represent the side lengths of a triangle.  
If they can classify the triangle as *right*, *acute*, or *obtuse*.

12, 16, 25

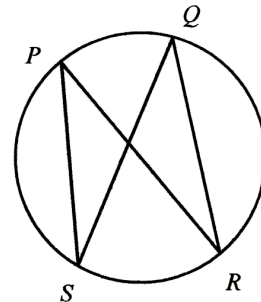
16. Find the value of  $x^\circ$ .



17. Find the value of  $x$ .



18. Find  $m\angle PRQ$  if  $m\angle PSQ = 3x + 4$  and  $m\angle PRQ = 7x - 12$ .



19.  $\triangle ABC$  is an equilateral triangle with altitude of 8. Find the perimeter of  $\triangle ABC$ .

20. WXYZ is a square. If  $WY = 10$ , find  $WX$ .

21. A cube has a base edge of 10 cm. Find the total surface area.

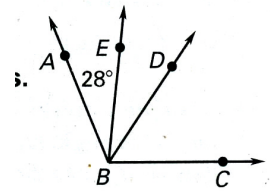
22. Given points A(5, 6) and B(8, 9), find the midpoint.

23. Find the intersection point of lines  $y = 4x - 10$  and  $x + y = 5$ .

24. A girl was to visit her grandmother and aunt. She started out going to her aunt's house that was 16 miles away in one direction. She turns and goes another direction 18 miles to her grandmother's house. She then goes back to her home. Is this an acute, obtuse, or right triangle path? Is the path scalene, isosceles or equilateral.

25. The diameter of a bicycle wheel is 24 inches. Estimate the number of revolutions the wheel will make in traveling 30 yards. (1 yd = 36 in.)

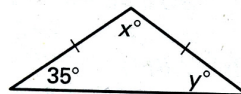
26.  $\overrightarrow{BD}$  bisects  $\angle ABC$  and  $\overrightarrow{BE}$  bisects  $\angle ABD$ . Find the value of  $\angle ABC$ .



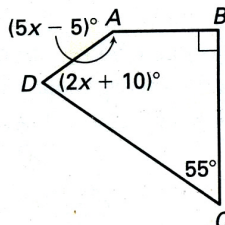
27. Find the value of  $x$ .



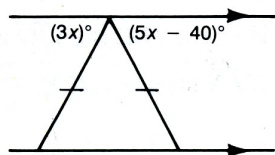
28. Find the value of  $x$  and  $y$ .



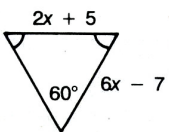
29. Find the value of  $x$ .



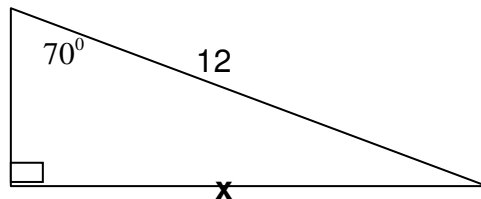
30. Find the value of  $x$ .



31. Find the value of  $x$ .

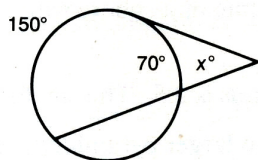


32. Solve for  $x$ . Round to the nearest hundredth.

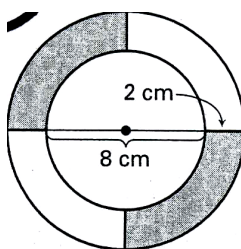


33. The area of the sector  $AOB$  is  $\frac{7\pi}{2}$  and the  $m\angle AOB = 315^\circ$ . Find the radius of the circle.

34. Find the value of  $x$ .



35. Find the area of the shaded region.



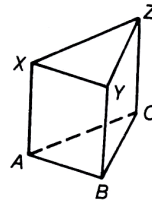
36. In the right triangular prism shown,  $AC = BC = 13$ , and  $AX = AB = 10$ .

Name a lateral edge of the prism. Find the lateral area.

The lateral faces of a right prism are best described as what kind of figure?

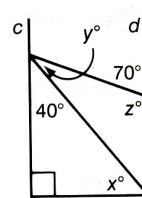
L.A. =

V =

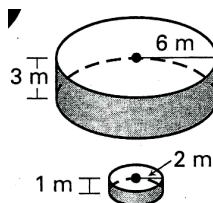


37. Find the length of the segment that joins the two points  $(7, 2)$  and  $(3, 0)$ .

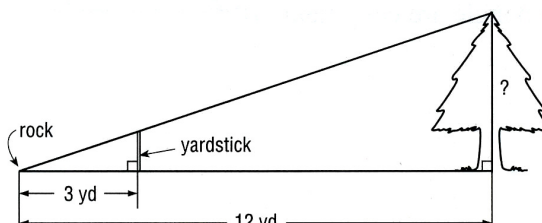
38. Given  $c \parallel d$ , find the values of the specified variables.



39. Decide whether the solids are similar.



40. A rock is 12 yards from a tree. Three yards from the rock a yardstick is placed perpendicular to the ground. Use a property of similar triangles to find the height of the tree.



1. 44
2. 12.81
3. 55
4. 2
5. 17
6. 26
7. 3, 5, 7
8. 15
9.  $x = 45$ ;  $y = 65$
10. a.  $12 = 18x - 24$       a. given  
       b.  $36 = 18x$             b. addition property of equality  
       c.  $2 = x$                 c. division property of equality  
       d.  $x = 2$                 d. symmetric
11. U;  $TU=12$ ; 2:3
12. 4.5
13. 77.45
14.  $\frac{5}{13}; \frac{12}{13}; \frac{5}{12}$
15. acute
16.  $30^0$
17. 13.9 or  $8\sqrt[3]{3}$
18. 16
19. 27.6 or  $16\sqrt{3}$
20. 7.07 or  $5\sqrt{2}$
21. 600
22.  $(13/2, 15/2)$
23. (3,2)
24. 24.08
25. 14 revolutions
26. 112
27. 17
28.  $x = 110$ ;  $y = 35$
29. 30
30. 20
31. 3

32. 11.28

33. 2

34.  $40^0$

35. 31.4 or  $10\pi$

36. LA = 360; V = 600

37.  $2\sqrt{5} = 4.47$

38.  $x = 50$ ;  $y = 30$ ;  $z = 110$

39. YES, 3/1

40. 4